



DEFENSE INFORMATION SYSTEMS AGENCY

P. O. BOX 549
FORT MEADE, MARYLAND 20755-0549

IN REPLY
REFER TO: Joint Interoperability Test Command (JTE)

MEMORANDUM FOR DISTRIBUTION

8 Jul 11

SUBJECT: Special Interoperability Test Certification of the Compunetix Inc. CONTEX[®] Summit/Summit Extend (XT) with Conference Release 2.18.0

References: (a) DoD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (d), see Enclosure 1

1. References (a) and (b) establish the Defense Information Systems Agency, Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification. Additional references are provided in enclosure 1.

2. The Compunetix Inc. CONTEX[®] Summit/Summit Extend (XT) with Conference Release 2.18.0 is hereinafter referred to as the System Under Test (SUT). The SUT meets the critical interoperability requirements for a Conferencing Bridge set forth in Reference (c) using test procedures derived from Reference (d). The SUT is an audio conferencing bridging system that supports 80 Digital Transmission Link Level 1 (T1s) (1920 ports) with the additional Summit Extend (X2) conference bridge extending capabilities up to 3840 ports for conferees. The SUT supports preset and Meet-Me conference types. The SUT has the capability to receive both standard (0, 1, 2, 3, and 4) and ABCD Dual Tone Multi-Frequency (DTMF) precedence digit formats and transmit the ABCD DTMF precedence digit format. This certification expires upon changes that affect interoperability, but no later than three years from the date the DISA Certifying Authority (CA) provided a positive recommendation. No other configurations, features, or functions, except those cited within this report, are certified by the JITC.

3. This finding is based on interoperability testing conducted by JITC, review of the vendor's Letters of Compliance (LoC), and DISA Information Assurance (IA) Certification Authority (CA) approval of the IA configuration. Interoperability testing was conducted by JITC Fort Huachuca, Arizona, from 14 March 2011 through 18 March 2011. Review of the vendors LoC was completed on 18 March 2011. The DISA CA has reviewed the IA Assessment Report for the SUT, Reference (e), and based on the findings in the report provided a positive recommendation on 17 June 2011. The acquiring agency or site will be responsible for the DoD Information Assurance Certification and Accreditation Process (DIACAP) accreditation. The JITC certifies the SUT as meeting the UCR requirements for Conferencing Bridge. Enclosure 2


JITC Memo, JTE, Extension of the Special Interoperability Test Certification of the Compunetix Inc. CONTEX[®] Summit/Summit Extend (XT) with Conference Release 2.18.0

government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.

6. The JITC point of contact is Ms. Anita Mananquil, DSN 879-5164, commercial (520) 538-5164, FAX DSN 879-4347, or e-mail to anita.mananquil@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The original tracking number for the SUT is 1034001.

FOR THE COMMANDER:

2 Enclosures a/s


for BRADLEY A. CLARK
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):

Joint Staff J-6

Joint Interoperability Test Command, Liaison, TE3/JT1

Office of Chief of Naval Operations, CNO N6F2

Headquarters U.S. Air Force, Office of Warfighting Integration & CIO, AF/XCIN (A6N)

Department of the Army, Office of the Secretary of the Army, DA-OSA CIO/G-6 ASA (ALT), SAIS-IOQ

U.S. Marine Corps MARCORSYSCOM, SIAT, MJI Division I

DOT&E, Net-Centric Systems and Naval Warfare

U.S. Coast Guard, CG-64

Defense Intelligence Agency

National Security Agency, DT

Defense Information Systems Agency, TEMC

Office of Assistant Secretary of Defense (NII)/DOD CIO

U.S. Joint Forces Command, Net-Centric Integration, Communication, and Capabilities Division, J68

Defense Information Systems Agency, GS23

ADDITIONAL REFERENCES

- (c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008," 22 January 2009
- (d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006
- (e) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Compunetix JITC CONTEX Summit/Summit Extend (XT) Conference Release 2.18.0 (Tracking Number 1034001)," 11 May 2011

CERTIFICATION TESTING SUMMARY

1. **SYSTEM TITLE.** The Compunetix Inc. CONTEX[®] Summit/Summit Extend (XT), hereinafter referred to as the System Under Test (SUT) with Conference Release 2.18.0.
2. **PROPONENT.** Program Executive Office Command, Control, Communications, Computers and Intelligence (PEO C4I) Shore and Expeditionary Program Office (PMW 790).
3. **PROGRAM MANAGER.** Ms. Shirley Dolengo, PEO C4I PMW 790, OT4 Room 2043, 4301 Pacific Highway, San Diego, California, 92110, e-mail: Shirley.dolengo@navy.mil.
4. **TESTER.** Joint Interoperability Test Command (JITC), Fort Huachuca, Arizona.
5. **SYSTEM UNDER TEST DESCRIPTION.**

a. General Description. The CONTEX[®] Summit is a media processor conference bridge. The conference bridge configurations range from 24 ports up to 3840 audio ports (in 24 port increments). One Summit, up to 1920 ports in a single shelf, or two shelves of circuit blades with Summit Extend V2 providing up to 3840 ports in two Summits, forming a large capacity port pool within a single system. The CONTEX[®] Summit provides full-digital audio conferencing and includes advanced conferencing features, with Windows interfaces, and control options.

b. CONTEX[®] Summit. The CONTEX[®] Summit shelf is the conference bridge hardware. The hardware consists of the CONTEX[®] chassis, cards, and redundant hot swappable AC/DC power supplies.

c. Maintenance Client (MC). The MC application provides an interface for system administrators and maintenance personnel to perform system monitoring, configuration, diagnostics, and maintenance functions. The MC is a Windows-based application that runs on Windows XP, or Windows 7. The MC connects to the CONTEX Summit system by using the SSE server as a gateway employing Transport Layer Security (TLS) communication with Federal Information Processing Standard (FIPS) validated encryption modules.

d. Secure Services Engine (SSE)/IPLogger. The SSE application provides FIPS validated encryption for the TLS connections between the Summit and the various client applications. The IPLogger application captures all of the logs that are generated by the Summit and are necessary for auditing and any troubleshooting that may be required.

e. Billing Downloader Statistics Server (BSS). The BSS provides billing and statistical utility applications. The applications run on a general purpose Server loaded with Windows Server 2008 Standard Edition. The Billing Downloader provides a way to download the Conference Detail Records (CDRs) from the Summit system and

generating the different billing reports that are available. The Billing Downloader should be configured to run as a windows scheduled task.

f. Windows Operator Console(WOC). The WOC is the user interface to the CONTEX[®] Summit conference bridge. The WOC application runs on Windows XP, or Windows 7 workstations and provides a simple interface for controlling bridge functions and accessing the system's conferencing features. The CONTEX[®] Console Software allows the user to perform needed system management functions. The CONTEX[®] Console Software receives information from the Conference Engine and gives the user the capability to edit database information. The real-time statistics of the CONTEX[®] Summit hardware and conferences are fed to the WOC by the Conference Engine.

6. OPERATIONAL ARCHITECTURE. The Unified Capabilities Requirements (UCR) Defense Switched Network (DSN) architecture in Figure 2-1 depicts the relationship of the SUT to the DSN switches.

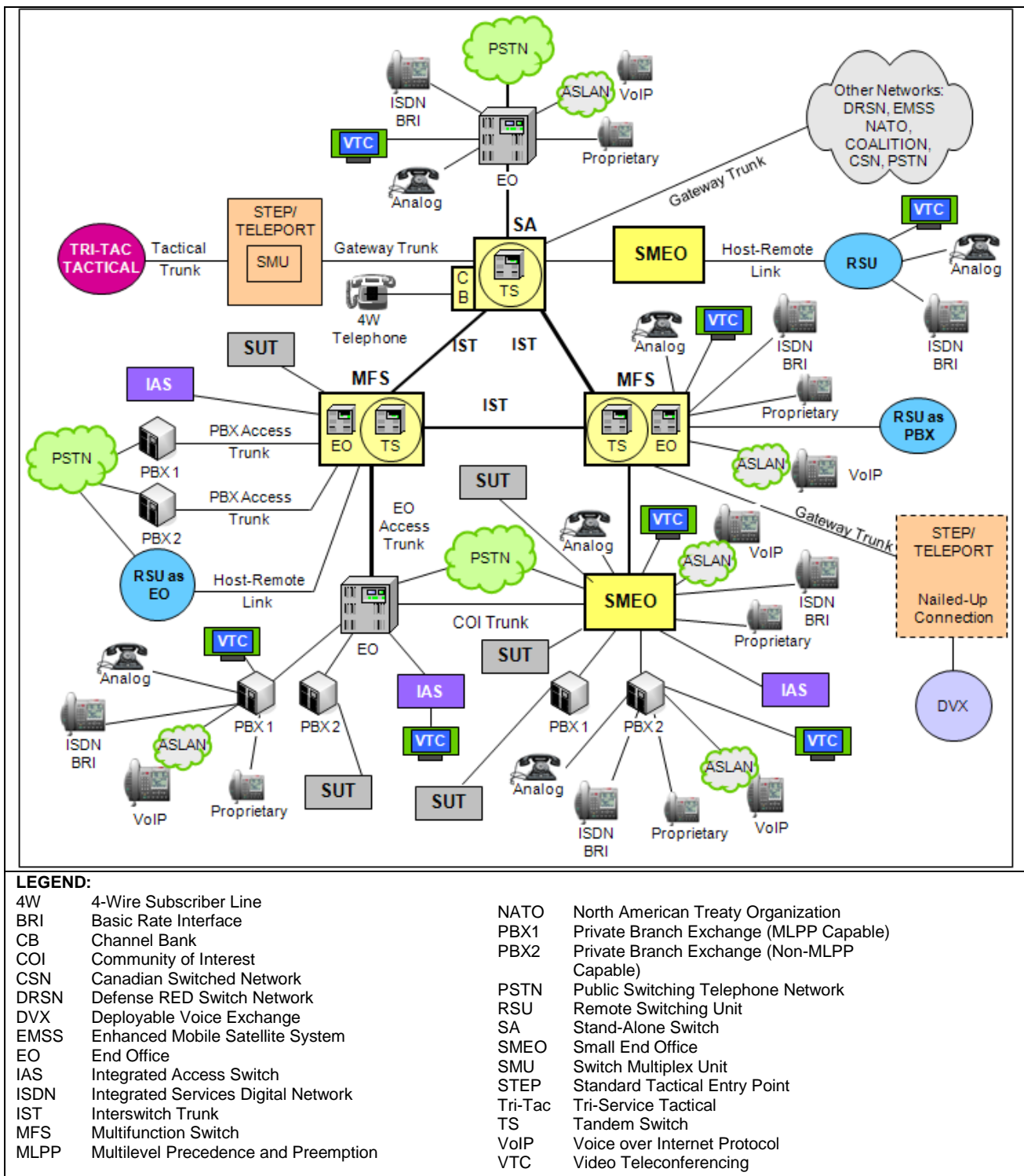


Figure 2-1. DSN Architecture

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in Table 2-1. These requirements are derived from the

UCR. Interface and Functional Requirements (FRs) and were verified through JITC testing.

Table 2-1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Met	UCR Paragraph
T1 ISDN PRI NI 1/2 (ANSI T1.619a) DTMF Signaling	Yes ¹	Yes	Preset Conferencing (R)	Yes	5.2.1.6.1
			Conference Notification Recorded Announcement (R)	Yes	5.2.1.6.1.1
			Conference Precedence Level (R)	Yes	5.2.2.8.7.1
			Automatic Retrial and Alternate Address (R)	Yes	5.2.1.6.1.2
			Bridge Release (R)	Yes	5.2.1.6.1.3
			Lost Connection to Conferee or Originator (R)	Yes	5.2.1.6.1.4
			Secondary Conferencing (R)	Yes	5.2.1.6.1.5
			Meet-Me Conferencing (C)	Yes	5.2.1.6.2
			Address Translation (R)	Yes	5.2.1.7
			DTMF signaling (C)	Yes	5.2.4.4.2
			Alarms (R)	Yes	5.2.11.3.4
IP Interface	Yes	Yes	Differentiated Services Code Point (R)	No ²	5.3.3.3.2
	Yes	See note 3.	Security (R)	Yes	4.3.1.2

NOTES:

- In accordance with the UCR, the SUT can meet the external bridge requirements via one of the following interfaces: IP, ISDN PRI, T1 CAS, or E1 CAS. The SUT meets the critical interoperability Functional Requirements via a T1 ISDN PRI interface with DTMF signaling. Since T1 ISDN PRI is the only interface supported by this conference bridge, it is a critical interface.
- The SUT management IP packets do not support the Differential Services Code Point marking of any value of 0-63 per the UCR. This anomaly was adjudicated by DISA on 22 April as having a minor operational impact with the vendors delivered plan of action and milestone to fix no later than September 30, 2011.
- Security is tested by DISA-led Information Assurance test teams and published in a separate report, Reference (e).

LEGEND:

ANSI		Mbps	Megabits per second
B8ZS	Bipolar Eight Zero Substitution	PRI	Primary Rate Interface
C	Conditional	R	Required
DISA	Defense Information Systems Agency	SUT	System Under Test
DTMF	Dual Tone Multi-Frequency	T1	Digital Transmission Link Level 1 (1.544 Mbps)
ISDN	Integrated Services Digital Network	UCR	Unified Capabilities Requirements

8. TEST NETWORK DESCRIPTION. The SUT was tested at JITC’s Global Information Grid Network Test Facility in a manner and configuration similar to that of the DSN operational environment. Testing the system’s required functions and features was conducted using the test configuration depicted in Figure 2-2.

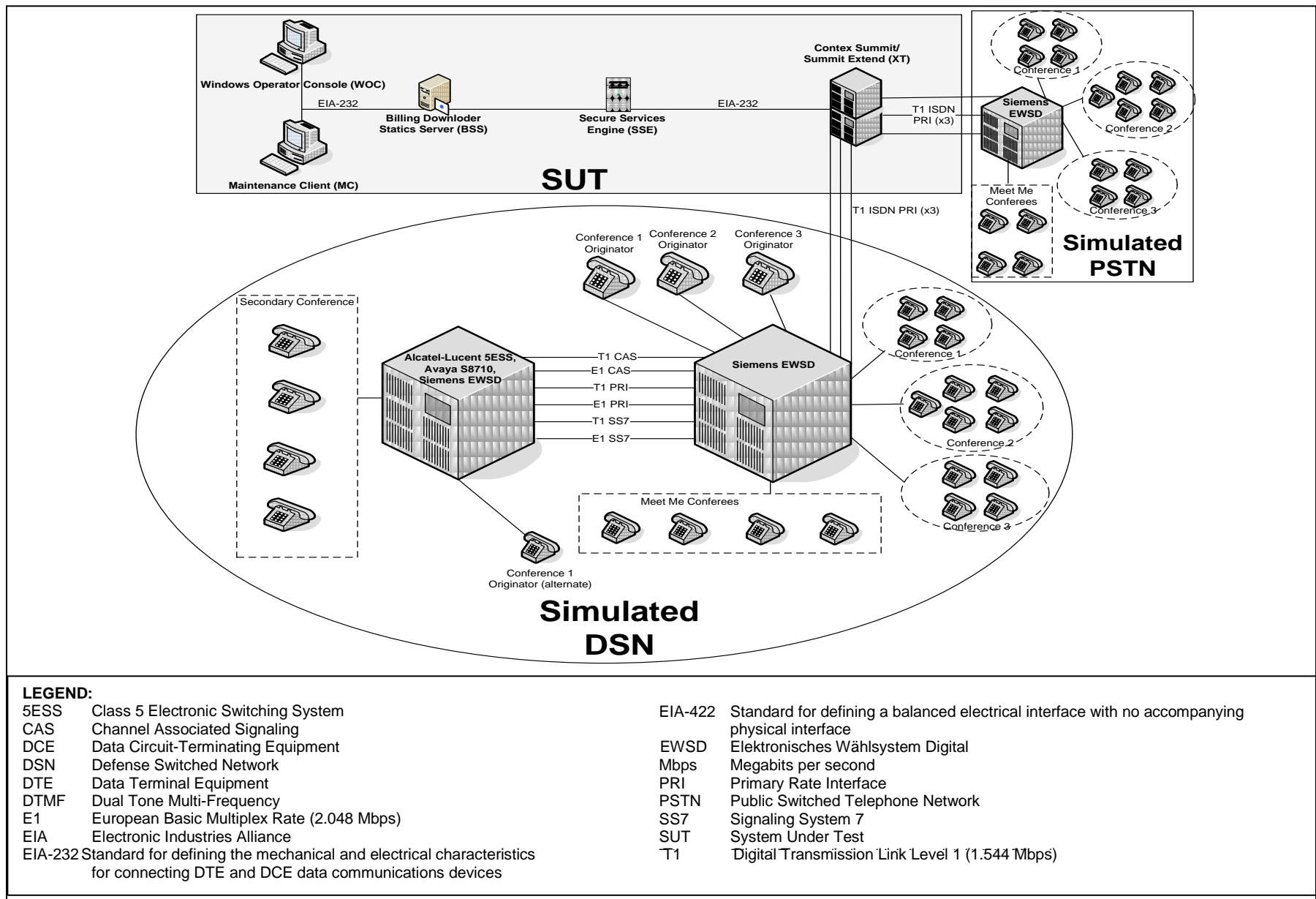


Figure 2-2. SUT Test Configuration

9. SYSTEM CONFIGURATIONS. Table 2-2 provides the system configurations, hardware, and software components tested with the SUT. The SUT was tested in an operationally realistic environment to determine interoperability with a complement of DSN switches noted in Table 2-2. Table 2-2 lists the DSN switches which depict the tested configuration and is not intended to identify the only switches that are certified with the SUT. The SUT is certified with switching systems listed on the Unified Capabilities (UC) Approved Products List (APL) that are certified interoperable within the DSN for a T1 ISDN PRI Rate Interface (PRI) interface with DTMF signaling.

Table 2-2. Tested System Configurations

System Name	Hardware/Software Release		
Siemens EWSD	Version 19d with Patch Set 46		
Lucent 5ESS	5E16.2, Broadcast Warning Message (BWM) 07-0003		
SUT	Component	Hardware	Software/Firmware
	WOC	Dell Precision T3500 PC	Windows XP with SP3, Windows 7 Professional MC 2.18.0, WOC 2.18.0
	BSS	Dell PowerEdge 300 Server	Windows Standard Server 2008 with SP2, Billing Downloader 1.14.0, Billing Processor 5.17.0, Recording Downloader 2.18.0, Statistics Utility 1.03.0
	MC	Dell Precision T3500 PC	Windows XP with SP3, Windows 7 Professional MC 2.18.0, WOC 2.18.0
	SSE	Dell PowerEdge 410 Server	Suse Linux Enterprise v11 with SP1, SSE App(stunnel) 4.33, Summit Logging Client 2.18.0
	CONTEX® Summit/Summit Extend (XT)	LIF - Front – 3368-F01, Rear – 5368-04	2.18.0
		VS - Front – 3200-D01, Rear – 5200-01	2.18.0
		AE - Front – 3370-C01, Rear – 5370-01	2.18.0
		CPIO (IOC) - Front – 3700-B02, Rear – 5700-01	2.18.0
		CPIO (CP) - Front – 3700-B02, Rear – 5700-01	2.18.0
LEGEND:			
5ESS	Class 5 Electronic Switching System	MC	Maintenance Client
AE	Audio Enunciator	MHz	Megahertz
BSS	Billing Downloader Statistics Server	N/A	Not Applicable
CP	Control Processor	PC	Personal Computer
CPIO	Control Processor Input Output	RAM	Random Access Memory
EWSD	Elektronisches Wählsystem Digital	SP	Service Pack
GB	Gigabyte	SSE	Secure Services Engine
GHz	Gigahertz	SUT	System Under Test
IOC	Input Output Control	VS	Voice Summation
LIF	Line Interface	WOC	Windows Operator Console
MB	Megabyte		

10. TEST LIMITATIONS. None.

11. TEST RESULTS

a. Discussion

(1) Preset Conferencing. The SUT met the following requirements for preset conference as described in UCR, paragraph 5.2.1.6.1.

(a) Ten separate conference bridges with each bridge having the capacity for one originator and 20 conferees.

(b) The capability to function as the “Primary,” “Secondary,” or “Alternate” bridge that will interconnect to other bridges that support up to a maximum of 191 conferees using all ten bridges off the same switch for the same conference.

(c) Preset Conference (abbreviated pool of subscribers/bridges) assignment of abbreviated numbers not greater than 20 switch address numbers per bridge. Such an address number could be a combination of subscriber lines and other conference bridge access.

(d) Preset conference network(s) that require more than 20 conferees uses the cascading bridge method of expanding the number of conferees beyond 20.

(e) Each preset conference bridge is capable of Multi-Level Precedence and Preemption (MLPP) access control and is fully interoperable with the serving switch to permit full MLPP access and control.

(f) When a conferee’s telephone is not answered, an automatic disconnect takes place within an adjustable interval of 15 to 60 seconds after a bridge leg is first connected to the conferee line.

(g) Originators of the preset conference have the capability of adding up to five non-programmed conferees (within the 21 conferees capability) to the conference by sequentially keying each add-on address and connecting the conferee to the bridge.

(2) Conference Notification Recorded Announcement. When the conference equipment receives the first off-hook supervisory signal from an answering conferee, conference notification recording shall be applied, and shall continue as an audible announcement to answering conferees and to the originator until all conferees answer. The conference notification recording shall automatically be removed 2 seconds after the last conferee answers, indicating, by such removal, that the conferees have all answered and that the conference is ready to begin. The SUT met the following FRs for Origination and Recording as described in UCR, paragraph 5.2.1.6.1.1.

(a) Each bridge generates a notification recording that is audible only to those conferees on that bridge.

(b) When all conferees on a bridge have answered, the conference notification recording is removed automatically from the bridge two seconds after the last conferee answers.

(c) When the conference notification recording is removed automatically from a bridge, the notification recording from the adjacent bridge, if continuing, then becomes audible to the originator and to the conferees on the remaining bridge(s).

(d) When a conferee disconnects, a conference disconnect tone is sent to the originator and other conferees in the conference.

(3) Conference Precedence Level. The SUT met the following FRs for Conference Precedence Level as described in UCR, paragraph 5.2.2.8.7.

(a) When a preset conference is initiated, an idle bridge in the desired conference group is seized and the conference connections attempted.

(b) When all conference bridges are busy, ROUTINE conference call attempts are connected to a "Line Busy" tone and the call attempts at precedence levels above ROUTINE reexamine all conference bridges on a preemptive basis.

(c) When a conference bridge is busy at the lowest level of precedence stored for all units, it shall be preempted for a higher precedence conference call.

(d) When a conference bridge is preempted, a two-second burst of preempt tone is provided to the conferees on the existing conference. The existing connections to the bridge are dropped and the bridge automatically sends an on-hook signal to the associated switch ports to permit the new connections to be established.

(e) When the requested precedence level is equal to or lower than that of any existing conference, the connection is denied and the caller is provided a Blocked Precedence Announcement.

(4) Automatic Retrial and Alternate Address. The SUT met the following FRs for Automatic Retrial and Alternate Address as described in UCR, paragraph 5.2.1.6.1.2.

(a) Off-hook supervision is returned to the originator from each bridge when all conferees have answered or when the originator has forced the conference prior to all conferees answering.

(b) If answer supervision is not returned from any conferee location within an adjustable interval of 15 to 60 seconds, one automatic retrial is made to the primary conferee address.

(c) Conferees are provided with alternate addresses that the SUT tries when the call fails to complete to the primary address.

(d) When a call to a primary address fails to complete within two trials, the call is directed to an alternate address, if provided, and two call attempts are made to the alternate address.

(5) Bridge Release. The SUT met the following FRs for Bridge Release as described in UCR, paragraph 5.2.1.6.1.3.

(a) The primary bridge is released when on-hook supervision is received on the originating port of the primary bridge or on all of the other conference bridge ports.

(b) If on-hook supervision is received on the originating port of secondary or tertiary bridges, all subsequent connections and equipment are released.

(c) A conference bridge is released after all attempts at call completion are made and no answers are received on all ports.

(d) A release of conference bridges is such that it is impossible for the bridges to become locked together.

(6) Lost Connection to Conferee or Originator. The SUT met the following FRs for Lost Connection to Conferee or Originator as described in UCR, paragraph 5.2.1.6.1.4.

(a) If the originator is lost or preempted, the bridge is held up long enough for preempt tone to be given to all conferees.

(b) If a connection to a conferee is lost, due to disconnection or preemption, a distinctive disconnect signal, defined as a conference disconnect tone, is provided to the conference originator and all conferees.

(7) Secondary Conferencing. The UCR requirement states that a switch shall provide the capability of secondary conferencing, which is the ability to interconnect conference bridges located at separate DSN switches. The SUT, as an external bridge connected to the switch, met the following FRs for Secondary Conferencing as described in UCR, paragraph 5.2.1.6.1.5.

(a) When a conference is activated and two or more of the addressees require a secondary bridge, the address is processed in the normal manner and directed toward the office serving the secondary equipment.

(b) The conference equipment is designed so that it may be used alternatively for primary or secondary conferences.

(c) Identical operational features, such as application and removal of the conference notification recorded announcement, are provided for both primary and secondary conferences.

(8) Meet-Me Conferencing. The UCR requirement states that a switch shall meet the Meet-Me conference requirements with an internal or external conference bridge. The SUT, as an external bridge connected to the switch, met the following FRs for Meet-Me Conferencing as described in UCR, paragraph 5.2.6.2.

(a) Each Meet-Me conference bridge shall be fully capable of MLPP access and control as described in paragraph 5.2.2.2.4.2.

(b) When a precedence call above ROUTINE is placed to a Meet-Me conference bridge that is activated with no remaining idle resources, the switch shall conduct a preemptive search to determine the lowest active resource on the bridge, and that resource shall receive a precedence notification tone and be preempted. All remaining conferees on the bridge shall receive a conference disconnect tone.

(9) Address Translations. The SUT met the following FRs for Address Translations as described in UCR, paragraph 5.2.1.7.

(a) The switch shall have the capability to translate three digits of the switch code.

(b) The first two digits of the four-digit line number are utilized to identify the switching center at which the conferencing equipment is located.

(c) The four-digit line number is translated to indicate the particular preset conference arrangement.

(10) Differentiated Services Code Point. The UCR requirement states that the product shall support the plain text DSCP plan and the DSCP assignment shall be software configurable for the full range (0-63) to support deployments that may use different DSCP plans. Interoperability testing found that all IP packets from devices in the SUT were marked with a DSCP decimal value of 0; additionally Compunetix can not assign a DSCP value of 0-63 on any device within the SUT. Test Deficiency Report (TDR) 218 001 was created for this problem. This Test Discrepancy was adjudicated by DISA on 22 April as having a minor operational impact with the vendors delivered plan of action and milestone to fix no later than September 30, 2011.

b. Test Summary. The SUT met the critical interoperability requirements for preset and meet-me conferencing and is certified for use in the DSN. The SUT is certified for use with any digital switching system on the UC APL that is certified interoperable within the DSN for a T1 ISDN PRI interface with DTMF signaling. The SUT is certified with switching systems listed on the Unified Capabilities (UC) Approved

Products List (APL) that are certified interoperable within the DSN for T1 ISDN PRI Rate Interface (PRI) interface with DTMF signaling.

12. TEST AND ANALYSIS REPORT. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet), or <http://199.208.204.125> (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.